

Serial No. 09/265,715

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claim 1. (Amended) Apparatus for determining the disposition of an object relative to a reference frame, comprising:

at least one field generator, which generates an electromagnetic field in a vicinity of the object;

at least one transducer, which is fixed to the object and which vibrates at a predetermined vibrational frequency and emits energy, responsive to an interaction of the electromagnetic field therewith;

one or more detectors in a vicinity of the object which detect the energy emitted by the transducer and generate signals in response thereto; [and]

a signal processor which receives and processes the detector signals to determine coordinates of the object, the signal processor calculating the position and/or orientation of the at least one transducer by determining three position vector components and three components of angular orientation; and

a display for displaying the position and/or orientation of the at least one transducer.

Claim 14. (Amended) Apparatus for determining the disposition of an object relative to a reference frame, comprising:

at least one field generator, which generates an electromagnetic field in a vicinity of the object;

a transducer, fixed to the object, which emits acoustic energy responsive to the electromagnetic field;

one or more detectors at known positions in a vicinity of the object, which detect the acoustic energy emitted by the transducer and generate signals in response thereto; [and]

a signal processor which receives and processes the detector signals to determine coordinates of the object, the signal processor calculating the position and/or orientation of the at least one transducer by determining three position vector components and three components of angular orientation; and

a display for displaying the position and/or orientation of the at least one transducer.

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Claim 19. (Amended) A method for determining the disposition of an object relative to a reference frame, comprising:

fixing to the object a transducer, which vibrates at a vibrational frequency thereof;

generating an electromagnetic field in a vicinity of the object;

detecting energy, emitted by the transducer responsive to an interaction of the field with the transducer, the energy having a frequency dependent on the vibrational frequency of the transducer, at one or more locations in the reference frame and generating signals responsive thereto; [and]

processing the signals to determine coordinates of the object based on three vector components and three components of angular orientation; and

displaying the position and/or orientation of the transducer.